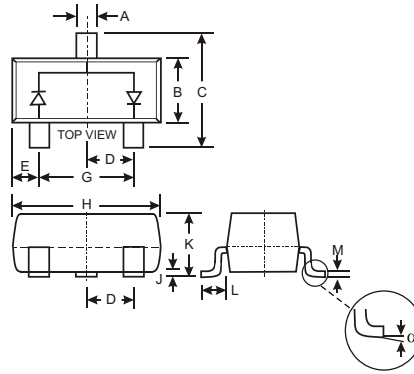


Features

Surface Mount Package Ideally Suited for Automatic Insertion
 Very Low Leakage Current
 Lead Free/RoHS Compliant (Note 3)

Mechanical Data

Case: SOT-23
 Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
 Moisture Sensitivity: Level 1 per J-STD-020C
 Terminals: Finish Matte Tin Solderable per MIL-STD-202, Method 208
 Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
 Polarity: See Diagram
 Marking: K52 & Date Code (See Page 2)
 Weight: 0.008 grams (approximate)



| SOT-23 | | |
|----------------------|-------|-------|
| Dim | Min | Max |
| A | 0.37 | 0.51 |
| B | 1.20 | 1.40 |
| C | 2.30 | 2.50 |
| D | 0.89 | 1.03 |
| E | 0.45 | 0.60 |
| G | 1.78 | 2.05 |
| H | 2.80 | 3.00 |
| J | 0.013 | 0.10 |
| K | 0.903 | 1.10 |
| L | 0.45 | 0.61 |
| M | 0.085 | 0.180 |
| | 0 | 8 |
| All Dimensions in mm | | |

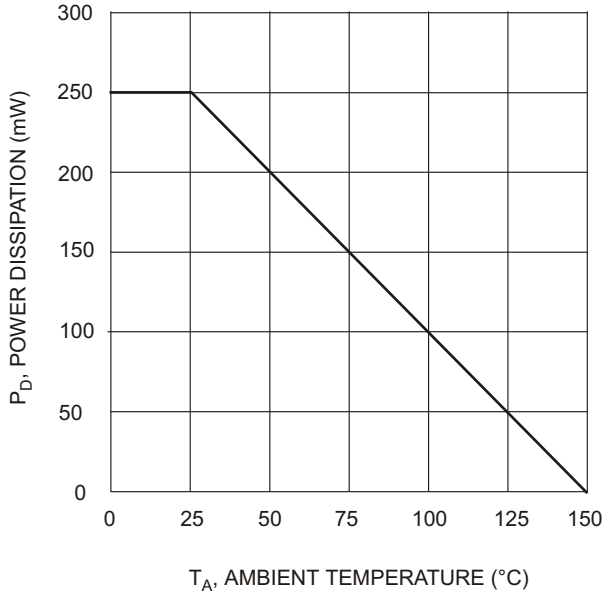
Maximum Ratings @ T_A = 25 C unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|--|--|-------------------|------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V _{RRM} V _{RWM} V _R | 85 | V |
| RMS Reverse Voltage | V _{R(RMS)} | 60 | V |
| Forward Continuous Current (Note 2) | I _{FM} | 160 140 | mA |
| Repetitive Peak Forward Current (Note 2) | I _{FRM} | 500 | mA |
| Non-Repetitive Peak Forward Surge Current | I _{FSM} | 4.0 1.0 0.5 | A |
| Power Dissipation (Note 2) | P _d | 250 | mW |
| Thermal Resistance Junction to Ambient Air (Note 2) | R _{JA} | 500 | C/W |
| Operating and Storage Temperature Range | T _J , T _{STG} | -65 to +150 | C |

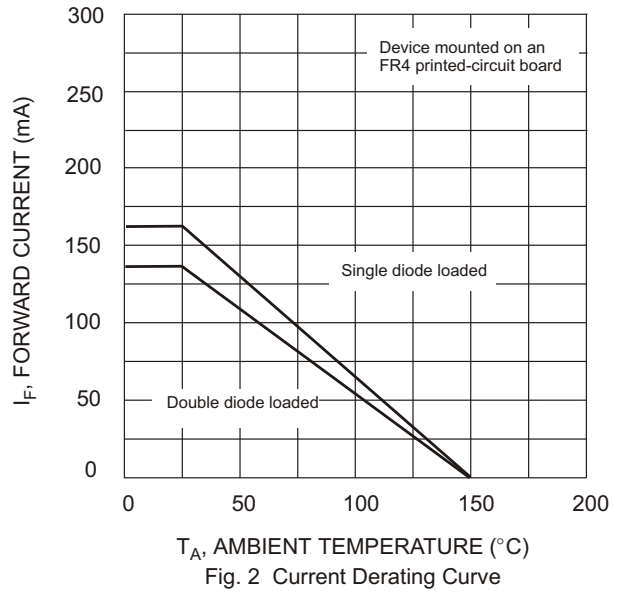
Electrical Characteristics @ T_A = 25 C unless otherwise specified

| Characteristic | Symbol | Min | Typ | Max | Unit | Test Condition |
|------------------------------------|--------------------|-----|-----|----------------------------|----------|--|
| Reverse Breakdown Voltage (Note 1) | V _{(BR)R} | 85 | | | V | I _R = 100 A |
| Forward Voltage | V _F | | | 0.90 1.0 1.1 1.25 | V | I _F = 1.0mA I _F = 10mA I _F = 50mA I _F = 150mA |
| Leakage Current (Note 1) | I _R | | | 5.0 80 | nA nA | V _R = 75V V _R = 75V, T _j = 150 C |
| Total Capacitance | C _T | | 2 | | pF | V _R = 0, f = 1.0MHz |
| Reverse Recovery Time | t _{rr} | | | 3.0 | s | I _F = I _R = 10mA, t _{rr} = 0.1 x I _R , R _L = 100 |

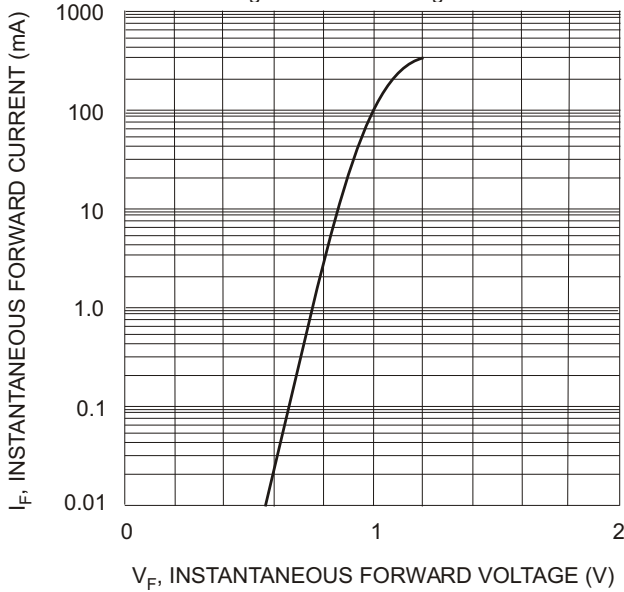
- Notes: 1. Short duration test pulse to minimize self-heating effect.
 2. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
 3. No purposefully added lead.



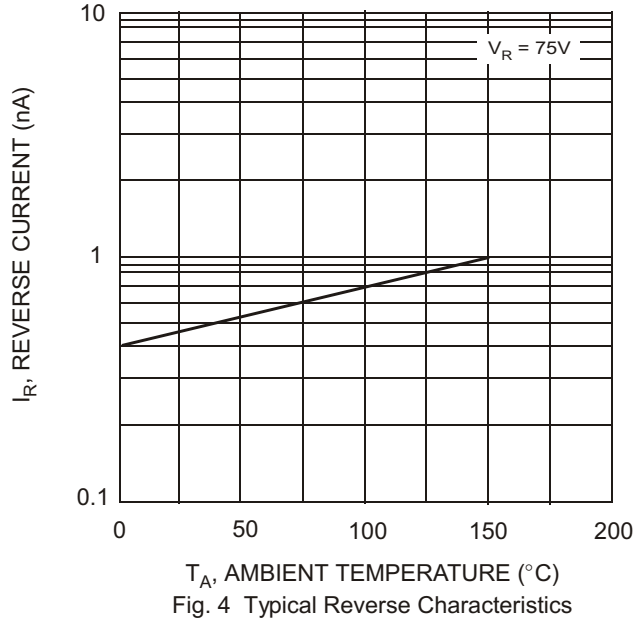
T_A, AMBIENT TEMPERATURE (°C)
Fig. 1 Power Derating Curve



T_A, AMBIENT TEMPERATURE (°C)
Fig. 2 Current Derating Curve



V_F, INSTANTANEOUS FORWARD VOLTAGE (V)
Fig. 3 Typical Forward Characteristics



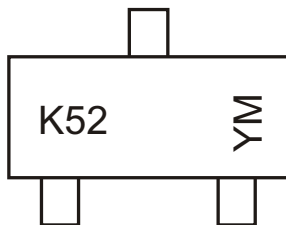
T_A, AMBIENT TEMPERATURE (°C)
Fig. 4 Typical Reverse Characteristics

Ordering Information (Note 4)

| Device | Packaging | Shipping |
|------------|-----------|------------------|
| BAV199-7-F | SOT-23 | 3000/Tape & Reel |

Notes: 4. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



K52 = Product Type Marking Code
YM = Date Code Marking
Y = Year ex: N = 2002
M = Month ex: 9 = September

Date Code Key

| Year | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Code | M | N | P | R | S | T | U | V | W | X | Y | Z |

| Month | Jan | Feb | March | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-------|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Code | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | O | N | D |

IMPORTANT NOTICE

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. Diodes Incorporated does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on our website, harmless against all damages.

LIFE SUPPORT

Diodes Incorporated products are not authorized for use as critical components in life support devices or systems without the expressed written approval of the President of Diodes Incorporated.